

Title (en)

THERAPEUTIC AND DIAGNOSTIC METHODS FOR MAST CELL-MEDIATED INFLAMMATORY DISEASES

Title (de)

THERAPEUTISCHE UND DIAGNOSTISCHE VERFAHREN FÜR MASTZELLVERMITTELTE ENTZÜNDLICHE ERKRANKUNGEN

Title (fr)

PROCÉDÉS THÉRAPEUTIQUES ET DE DIAGNOSTIC POUR DES MALADIES INFLAMMATOIRES MÉDIÉES PAR DES MASTOCYTES

Publication

**EP 3749362 A1 20201216 (EN)**

Application

**EP 19707237 A 20190208**

Priority

- US 201862628564 P 20180209
- US 2019017320 W 20190208

Abstract (en)

[origin: WO2019157358A1] The present invention features, inter alia, methods of treating patients having a mast cell-mediated inflammatory disease, methods of determining whether patients having a mast cell-mediated inflammatory disease are likely to respond to a therapy (e.g., a therapy comprising an agent selected from the group consisting of a tryptase antagonist, an Fc epsilon receptor (FcεR) antagonist, an IgE+ B cell depleting antibody, a mast cell or basophil depleting antibody, a protease activated receptor 2 (PAR2) antagonist, an IgE antagonist, and a combination thereof), methods of selecting a therapy for a patient having a mast cell-mediated inflammatory disease, methods for assessing a response of a patient having mast cell-mediated inflammatory disease, and methods for monitoring the response of a patient having a mast cell-mediated inflammatory disease.

IPC 8 full level

**A61K 39/395** (2006.01); **A61P 11/00** (2006.01); **A61P 11/06** (2006.01); **A61P 29/00** (2006.01); **A61P 37/08** (2006.01); **G01N 33/50** (2006.01)

CPC (source: EP IL KR US)

**A61K 31/498** (2013.01 - EP IL); **A61K 31/4985** (2013.01 - EP IL KR); **A61K 31/505** (2013.01 - EP IL); **A61K 31/519** (2013.01 - EP IL);  
**A61K 31/522** (2013.01 - EP IL US); **A61K 31/573** (2013.01 - EP IL); **A61K 38/55** (2013.01 - EP); **A61K 39/39566** (2013.01 - EP IL KR);  
**A61K 45/06** (2013.01 - EP IL KR US); **A61P 11/00** (2018.01 - EP IL); **A61P 11/06** (2018.01 - EP IL); **A61P 29/00** (2018.01 - EP IL KR);  
**A61P 37/08** (2018.01 - EP IL); **C07K 16/244** (2013.01 - EP IL KR); **C07K 16/4291** (2013.01 - EP IL KR); **C12Q 1/37** (2013.01 - EP);  
**C12Q 1/6883** (2013.01 - EP US); **G01N 33/573** (2013.01 - EP); **G01N 33/6893** (2013.01 - EP); **A61K 2039/505** (2013.01 - EP IL KR US);  
**A61K 2300/00** (2013.01 - IL KR); **C07K 2317/24** (2013.01 - EP IL KR); **C07K 2317/76** (2013.01 - EP IL KR); **C12Q 2600/106** (2013.01 - EP US);  
**C12Q 2600/156** (2013.01 - EP US); **G01N 2333/96433** (2013.01 - EP); **G01N 2800/24** (2013.01 - EP); **G01N 2800/52** (2013.01 - EP IL)

C-Set (source: EP)

1. **A61K 39/39566 + A61K 2300/00**
2. **A61K 31/573 + A61K 2300/00**
3. **A61K 31/4985 + A61K 2300/00**
4. **A61K 31/505 + A61K 2300/00**
5. **A61K 31/498 + A61K 2300/00**
6. **A61K 31/522 + A61K 2300/00**
7. **A61K 31/519 + A61K 2300/00**

Citation (examination)

- US 2017073413 A1 20170316 - BEBBINGTON CHRISTOPHER ROBERT [US], et al
- WO 2008116149 A2 20080925 - GENENTECH INC [US], et al
- US 8287872 B2 20121016 - VIRCA GEORGE DUKE [US], et al
- EP 0841946 B1 20021002 - GENENTECH INC [US]
- QUIRCE SANTIAGO ET AL: "Future Biologic Therapies in Asthma", ARCHIVOS DE BRONCONEUMOLOGIA, EDICIONES DOYMA S.A., BARCELONA, ES, vol. 50, no. 8, 2 July 2014 (2014-07-02), pages 355 - 361, XP029039691, ISSN: 1579-2129, DOI: 10.1016/J.ARBR.2014.06.005
- AKIN CEM: "Mast cell activation syndromes", JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 140, no. 2, 3 August 2017 (2017-08-03), pages 349 - 355, XP085148407, ISSN: 0091-6749, DOI: 10.1016/J.JACI.2017.06.007
- NEIL N. TRIVEDI ET AL: "Human subjects are protected from mast cell tryptase deficiency despite frequent inheritance of loss-of-function mutations", JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY, vol. 124, no. 5, 1 November 2009 (2009-11-01), pages 1099 - 1105.e4, XP055059187, ISSN: 0091-6749, DOI: 10.1016/j.jaci.2009.07.026
- HARRIS JEFFREY M. ET AL: "A randomized trial of the efficacy and safety of quilizumab in adults with inadequately controlled allergic asthma", RESPIRATORY RESEARCH, vol. 17, no. 1, 18 March 2016 (2016-03-18), XP055883476, DOI: 10.1186/s12931-016-0347-2
- GANGWAR ROOPESH SINGH ET AL: "Mast cell and eosinophil surface receptors as targets for anti-allergic therapy", PHARMACOLOGY & THERAPEUTICS, ELSEVIER, GB, vol. 170, 20 October 2016 (2016-10-20), pages 37 - 63, XP029895043, ISSN: 0163-7258, DOI: 10.1016/J.PHARMTHERA.2016.10.010
- SEBASTIAN HECK ET AL: "Pharmacological Therapy of Bronchial Asthma: The Role of Biologicals", INTERNATIONAL ARCHIVES OF ALLERGY AND IMMUNOLOGY, vol. 168, no. 4, 1 January 2015 (2015-01-01), CH, pages 241 - 252, XP055564236, ISSN: 1018-2438, DOI: 10.1159/000443930
- KIWAMOTO TAKUMI ET AL: "Siglec-8 as a druggable target to treat eosinophil and mast cell-associated conditions", PHARMACOLOGY & THERAPEUTICS, vol. 135, no. 3, 2012, pages 327 - 336, XP028932703, ISSN: 0163-7258, DOI: 10.1016/J.PHARMTHERA.2012.06.005
- SCHMIDLIN FABIEN ET AL: "Protease-activated receptor 2 mediates eosinophil infiltration and hyperreactivity in allergic inflammation of the airway", THE JOURNAL OF IMMUNOLOGY, WILLIAMS & WILKINS CO, US, vol. 169, no. 9, 1 November 2002 (2002-11-01), pages 5315 - 5321, XP002533057, ISSN: 0022-1767
- MEI-KWAN YAU ET AL: "Protease activated receptor 2 (PAR2) modulators: a patent review (2010-2015)", EXPERT OPINION ON THERAPEUTIC PATENTS, vol. 26, no. 4, 3 March 2016 (2016-03-03), GB, pages 471 - 483, XP055665770, ISSN: 1354-3776, DOI: 10.1517/13543776.2016.1154540
- M. ASADUZZAMAN ET AL: "Functional inhibition of PAR 2 alleviates allergen-induced airway hyperresponsiveness and inflammation", CLINICAL & EXPERIMENTAL ALLERGY, vol. 45, no. 12, 1 December 2015 (2015-12-01), UK, pages 1844 - 1855, XP055610400, ISSN: 0954-7894, DOI: 10.1111/cea.12628
- HANANIA NICOLA A. ET AL: "Exploring the Effects of Omalizumab in Allergic Asthma : An Analysis of Biomarkers in the EXTRA Study", AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, vol. 187, no. 8, 15 April 2013 (2013-04-15), US, pages 804 - 811, XP055883599, ISSN: 1073-449X, DOI: 10.1164/rccm.201208-1414OC

- HOLGATE S ET AL: "The anti-inflammatory effects of omalizumab confirm the central role of IgE in allergic inflammation", JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 115, no. 3, 1 March 2005 (2005-03-01), pages 459 - 465, XP027278471, ISSN: 0091-6749, [retrieved on 20050305]
- JONATHAN CORREN ET AL: "Lebrikizumab Treatment in Adults with Asthma", THE NEW ENGLAND JOURNAL OF MEDICINE, 22 September 2011 (2011-09-22), United States, pages 1088 - 1098, XP055189397, Retrieved from the Internet <URL:<http://www.ncbi.nlm.nih.gov/pubmed/21812663>> DOI: 10.1056/NEJMoa1106469
- See also references of WO 2019157358A1

Cited by

US11248054B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2019157358 A1 20190815; WO 2019157358 A8 20191010;** AU 2019218128 A1 20200917; BR 112020016172 A2 20201215;  
CA 3088557 A1 20190815; CA 3088557 C 20240227; CA 3226165 A1 20190815; CL 2020002047 A1 20201023; CN 111787947 A 20201016;  
CR 20200394 A 20201105; EP 3749362 A1 20201216; IL 276050 A 20200831; JP 2021512856 A 20210520; JP 2024001032 A 20240109;  
JP 7418337 B2 20240119; KR 102417088 B1 20220707; KR 20200118474 A 20201015; KR 20220098056 A 20220708;  
KR 20230142806 A 20231011; MA 51741 A 20210519; MX 2020008291 A 20200925; PE 20211304 A1 20210720; RU 2020128543 A 20220309;  
RU 2020128543 A3 20220309; SG 11202007564V A 20200929; TW 202003033 A 20200116; US 2020377953 A1 20201203;  
US 2024175086 A1 20240530

DOCDB simple family (application)

**US 2019017320 W 20190208;** AU 2019218128 A 20190208; BR 112020016172 A 20190208; CA 3088557 A 20190208; CA 3226165 A 20190208;  
CL 2020002047 A 20200806; CN 201980009778 A 20190208; CR 20200394 A 20190208; EP 19707237 A 20190208; IL 27605020 A 20200714;  
JP 2020540485 A 20190208; JP 2023149136 A 20230914; KR 20207025742 A 20190208; KR 20227022514 A 20190208;  
KR 20237032332 A 20190208; MA 51741 A 20190208; MX 2020008291 A 20190208; PE 2020001193 A 20190208; RU 2020128543 A 20190208;  
SG 11202007564V A 20190208; TW 108104514 A 20190211; US 202016987958 A 20200807; US 202318521390 A 20231128